

WHAT IS CLAIMED:

1. A motor vehicle wheel comprising:

a wheel rim;

a tire having a tire interior enclosed by the wheel rim and the tire;

the tire being mounted on the wheel rim;

an insert comprising of a ring-shaped sound-absorbing material;

the insert being positioned within the tire interior;

an acoustically transparent support element comprising at least one layer of fibers oriented in a circumferential direction and having a centrifugal force resisting tensile strength, at least in the circumferential direction of the tire, wherein the centrifugal force resisting tensile strength is achieved by the at least one layer of fibers oriented in the circumferential direction; and

the acoustically transparent support element being coupled to the insert.

2. The motor vehicle wheel in accordance with claim 1, the insert having a surface arranged to be open to the tire interior at least over a portion of its cross-section; and

the acoustically transparent support element being adapted to wrap the surface of the insert.

3. The motor vehicle wheel in accordance with claim 1, the acoustically transparent support element comprising a plurality of support elements layers radially arranged within the insert at discrete distances from each other.

4. The motor vehicle wheel in accordance with claim 1, the acoustically transparent support elements comprising a woven mesh.

5. The motor vehicle wheel in accordance with claim 4, the woven mesh comprising fibers with tensile strength and extending in the circumferential direction of the tire.

6. The motor vehicle wheel in accordance with claim 1, the acoustically transparent support element being a perforated foil.

7. The motor vehicle wheel in accordance with claim 6, the foil being formed in an isotropic manner.

8. The motor vehicle wheel in accordance with claim 1, the insert being formed as closed ring.

9. The motor vehicle wheel in accordance with claim 8, the closed ring comprising a strip of sound-reducing material adapted to be wrapped several times in a ring-like manner.

10. The motor vehicle wheel in accordance with claim 9, the strip having at least one side coupled to the acoustically transparent support element.

11. The motor vehicle wheel in accordance with claim 9, the acoustically transparent support element is one of glued and welded to the strip.

12. The motor vehicle wheel in accordance with claim 8, the acoustically transparent support element is one of glued and welded to the closed ring.

13. The motor vehicle wheel in accordance with claim 1, the insert comprising a plurality of radially arranged insert layers.

14. The motor vehicle wheel in accordance with claim 13, the acoustically transparent support element comprising a plurality of support element layers; and  
at least one of the support element layers is positioned between each radially arranged insert layer.

15. The motor vehicle wheel in accordance with claim 1, the insert comprising a plurality of circumferential segments being adapted to be joined after assembly.

16. The motor vehicle wheel in accordance with claim 1, the acoustically transparent support element being adapted to add, at least in the circumferential direction, tension to the sound-absorbing insert.

17. The motor vehicle wheel in accordance with claim 1, wherein the insert is mounted at the wheel rim.